

STAT

Page Denied

000000000000

STAT

USSR CONFERENCE ON PHYSIOLOGY AND PATHOLOGY OF RESPIRATION,
HYPOXIA, HYPEROXIA, AND OXYGEN THERAPY

Vrachebnoye Delo, No 1
Kiev, Jan 56

V. V. Turanov
Kiev

A scientific conference on the physiology and pathology of respiration, hypoxia, hyperoxia, and oxygen therapy took place at Kiev. This conference was organized at the initiative of the Institute of Physiology of the Academy of Sciences Ukrainian SSR, the Kiev Medical Institute, and the Ukrainian Scientific Research Institute of Clinical Medicine imeni N. D. Strazhesko.

The conference was held in honor of the 50th anniversary of the death of the physiologist I. M. Sechenov. More than 100 scientific reports and communications were presented at the conference. Great interest was elicited by the reports given by Prof Sergievskiy and Prof Ya. M. Britvan on the regulation of respiration under normal and pathological conditions and also by a report of Prof L. M. Perel'man dealing with the active tonus of the lungs.

Papers presented by Ye. M. Kreps, Corresponding Member of the Academy of Sciences USSR, et al., Prof I. M. Khazen, Docent Ye I Kuznets, and others dealt with the biochemistry and pathological chemistry of respiration.

In two special sessions the problems of hypoxia and hyperoxia were discussed. A report given by Prof N. N. Sirotinin, Corresponding Member of the Academy of Sciences Ukrainian SSR, was heard with great interest. Sirotinin advanced a new postulate, which is of great theoretical and practical significance, in regard to the possibility of using controlled hypoxia in the prophylaxis and therapy of hypoxic conditions [sic]. Communications by A. Z. Kolchinskaya, Candidate of Medical Sciences, V. D. Turanov, A. P. Morozov, and M. N. Shumitskaya dealt with the effects of hypoxia on persons of different ages. Interesting data were contained in a report by Prof A. A. Shik entitled "Respiratory Insufficiency and Oxygen Starvation" and a paper by Prof I. I. Sairnov, Corresponding Member of the Academy of Medical Sciences USSR and his collaborators V. S. Rayevskiy, T. I. Rolich, et al. entitled "Concerning the Resistance to Hypoxia of Dogs with an Experimentally Produced Infarct of the Ventricles."

The conference paid much attention to problems pertaining to the clinical aspects of hypoxic conditions and oxygen therapy.

A constructive development was the classification of forms of respiratory insufficiency proposed by Professor Dembo. Prof F. Ya Primak outlined his ideas on the role played by hypoxia in the pathology of internal diseases and on methods of controlling hypoxia. In the subdivision Clinical Aspects of Hypoxic Conditions and Oxygen Therapy a report by Prof V. S. Shapot was outstanding. Problems of terminal conditions and of the restoration of functions after death from anoxia were subjected to a lively discussion. Of particular interest were work by E. E. Yankovskiy, Doctor of Medical Sciences, on the resuscitation of the organism by Bryukhonenko's autojector and restoration of vital functions after prolonged periods of clinical death, an investigation by the collaborators of Prof V. A. Negovskiy on terminal conditions, and work by Prof I. R. Petrov, Corresponding Member Academy of Medical Sciences USSR, and Docent Ye V. Gubler in regard to artificially induced hyperthermia as a method for the prophylaxis of the effects of oxygen starvation.

STAT

The advisability of using for the study of the problem of oxygen insufficiency the newest and most efficient methods of investigation comprising tracer atoms, ultraviolet microscopy, and oxyhemometry was brought out at the conference.

The conference emphasized that experimental investigations carried out in pressure chambers at different degrees of air rarefaction and under conditions involving strong and rapid changes in atmospheric pressure are of importance for setting standards of labor activity at high elevations in mountainous regions, for aviation, and for the development of physical culture and sports. In connection with this, the importance of scientific research carried out by the mountain expeditions of the Institute of Physiology, Academy of Sciences Ukrainian SSR, under the direction of M. N. Sirotinin, Corresponding Member Academy of Sciences Ukrainian SSR, was emphasized.

New data were obtained in regard to the significance of changes in respiration and in the development of oxygen starvation. Extensive use of the method of oxyhemometry made it possible to acquire detailed knowledge in regard to the characteristics of the course of arterial hypoxemia in various diseases. The changes which take place in the organism in connection with oxygen starvation were subjected to many-sided analysis and particular attention was paid to the concomitant changes in the central nervous and cardiovascular systems.

Important problems of oxygen therapy to be applied in various hypoxic conditions were discussed at the conference. The effectiveness of the therapy in oxygen tents was confirmed and the advisability of applying oxygen in combination with other therapeutic agents was pointed out on the basis of information that was presented. It was shown that in order to eliminate the side effects produced by oxygen it is important to determine the individual's resistance and watch carefully for changes in the condition of the patient during the course of the treatment.

The conference pointed out the insufficient nature of the available methods for studying tissue hypoxia in the intact organisms. There has been agreement to the effect that some progress in the development of new methods for the investigation of hypoxic conditions has been made in the USSR. Notwithstanding this progress, it is necessary to design more efficient equipment which assures accurate recording of the composition of arterial and venous blood and can be used for other purposes as well.

To take advantage of possibilities offered by oxygen therapy, it is necessary to supply medical institutions to a greater extent with oxygen tents, oxygen inhalation equipment for use by groups of patients, inhalers, respiratory masks, and nasal catheters. Particular attention should be paid to the matter of supplying medical institutions in the periphery with the simplest type of equipment. One must continue work on the improvement of the oxygen inhalation equipment which is already available.

Of great importance is the improvement of the training of medical workers in the field of oxygen therapy. It is advisable to hold courses of lectures on oxygen insufficiency and oxygen therapy at institutes for the advanced training of physicians. It is furthermore desirable to create institutions at Moscow, Leningrad, Kiev, Kharkov, and Gor'kiy for training and instruction in methods to be applied in the field of oxygen therapy. There is at present a need of training technicians who would service oxygen respiration equipment.

The participants at the conference also expressed the opinion that it is necessary to publish a brief manual on the subject of oxygen therapy.

STAT

Furthermore, the conference recommended that oxyhemographs, Van Slyke and Knipping apparatuses, carbovisors, and equipment for photometric determination of the degree of saturation of the blood with oxygen be manufactured on a continuous production-line basis.

The conference pointed out that meritorious work in the organization of research on the problems of hypoxia and of oxygen therapy has been done by the Institute of Physiology imeni A. A. Bogomolets of the Academy of Sciences Ukrainian SSR, the Institute of Clinical Medicine imeni N. D. Strazhesko, and the Oxygen Committee of the Ministry of Health Ukrainian SSR. The fact that three conferences on hypoxia and oxygen therapy were held at Kiev [in 1948, 1950 and 1955] testifies to the great interest which Ukrainian scientists and physicians evince towards the study of this subject.

The prominent Polish physiologist W. L. Missiuro, who works in the field of oxygen starvation, participated in the conference. He expressed his opinion on the reports which were presented.

The time has come to consider the question of the creation of an Oxygen Committee of the Ministry of Health USSR, which would organize and coordinate all scientific research work in the field of hypoxia and oxygen therapy. It has been decided to hold the next conference on oxygen starvation and oxygen therapy in 1958.

* * *